

Modern Facial Attractiveness:
Investigating Gendered Preferences for Dominance and Personality

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Abstract

Evolutionary psychologists often cite specific traits as vital to human attraction and survivability. However, some empirical and social controversy exists as to whether traits truly sway perceptions of attraction. In order to further investigate the ambiguous findings concerning the attractiveness of dominance and personality factors, we formed several hypotheses in alignment with evolutionary literature: (A) Perceived dominance will lead women to be judged as less attractive and men as more attractive. (B) Women will be judged as more attractive if they are rated higher in submissive Big Five personality traits and males will be judged as more attractive if they are rated higher in dominant personality traits. Finally, (C) target gender differences in ratings of dominance and personality will be larger if the participant is high in Social Dominance Orientation (SDO) and low on the Attitudes Toward Women scale (AWS). 103 online participants rated male and female target faces in dominance, personality, and attractiveness before rating themselves in personality, SDO, and AWS. No significant results emerged to support our hypotheses in the directions that we predicted. Dominance and attractiveness were slightly correlated for male ($r = 0.14$) and female ($r = 0.25$) targets. Moreover, there were no significant relationships between perceptions of attractiveness and personality. Participant SDO scores had no effect on target ratings, and participant AWS affected the ratings of only a couple personality traits. To interpret the lack of evolutionary preferences in our results, we turn to social models of attraction.

Key words: evolutionary psychology, feminism, attraction, dominance

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Picture your best friend's face for just a moment. You know their eyes, their smile, and every feature that makes them unique. Now think back to the day you first met that same friend. Is it possible that their unique facial features served as cues for your lasting friendship? This idea, as it turns out, is far from unrealistic. In a survey of undergraduate students, Hassin and Trope (2000) found that around 75% of students thought of the face as a reliable source of character information. In fact, we are often inclined to use facial information to make attributions of personality even without the presence of observable behavior (Willis & Todorov, 2006). These judgments are seemingly made automatically and with little reflection (Hassin & Trope, 2000). Even in face-to-face zero acquaintance situations (in which the personalities of total strangers are assessed) and photograph-only presentations (Penton-Voak, Pound, Little & Perrett, 2006), there lie significantly positive correlations ($r = 0.31 - 0.46$ for females, $r = 0.43 - 0.74$ for males, $p < 0.001$) between perceiver ratings and target self-reports of personality dimensions when using the five-factor model of personality. These correlations are similar to that of personality ratings between acquaintances and close friends (Norman, 1963). Such findings prove to be important in social relationships, especially those concerning the value of attraction.

Literature Review

Three Factors that Affect Mate Preference

Attraction. People are able to make facial attraction judgments quickly and without seeing the entire face at once (Olson & Marshuetz, 2005). Facial attractiveness plays a major role in social perception. Generally, attractive people enjoy more positive evaluations and social responses than unattractive people, a phenomenon termed "the attractiveness halo effect" (see

Eagly, Ashmore, Makhijani & Longo, 1991 for review). On average, attractive people are handed more professional opportunities (Dipboye, Arvey & Terpstra, 1977), are deemed to act in more socially desirable ways (Dion, Berscheid & Walster, 1972), and appear to be more mentally and physically healthy (Langlois et al., 2000) than unattractive people. Cunningham (1986) found that participants considered simple photographs of attractive people to be more worthy of jobs, dating, and childrearing as well as self-sacrificial actions, like donating blood or running into a burning building. Because attractive people appear to revel in an elevated lifestyle, it is important to evaluate the ways in which other perceived facial factors, such as dominance and personality, affect attractiveness ratings.

Personality. Generally, personality is described as one's set temperament across a variety of social and private situations. Costa, Terracciano and McCrae (2001) found that tangible gender differences in personality not only exist but are also subject to gender stereotypes and are somewhat consistent across cultures. These researchers evaluated subjects in terms of the five-factor model of personality. The "Big Five" factors consist of Openness to experience, Conscientiousness, Extraversion, Agreeableness, and Neuroticism, and participants are rated as high or low in each dimension based on how they answer questionnaire items designed to pick up on various traits. According to Costa and McCrae (1992), individuals high in Openness are intellectual and imaginative. Those high in Conscientiousness are organized and dependable. People that are high in Extraversion are talkative and sociable. To be high in Agreeableness is to be trusting and tolerant. Lastly, those high in Neuroticism are temperamental and emotionally unstable.

Average gender differences in personality. In a cross-cultural meta-analysis using the NEO-PI-R personality scale for measurement, Costa et al. (2001) found that men, on average,

score higher in Extraversion than women. In agreement with other research, Costa et al. (2001) also concluded that men are more assertive and are prone to more risky behavior (Feingold, 1994). In contrast, women score higher than men in Neuroticism, Agreeableness (Costa et al., 2001), and Conscientiousness (Feingold, 1994). Feingold (1994) also concluded that in comparison to men, women are less assertive and more prone to trust, anxiety and tender-mindedness or nurturance.

Importance of personality types in relationships. The interaction of personality traits between partners has the potential to make or break romantic relationships. Huston and Houts (1998) imply that overall personality lays down the “psychological infrastructure” for long-lasting relationships and serves as indicators of future success or dysfunction within the relationship. For example, high Neuroticism leads to low relationship and marital satisfaction, and high Agreeableness and Openness increase relationship and marital satisfaction (White, Hendrick & Hendrick, 2004), and these effects can be accounted for by fewer negative interactions between the partners as well as less negative outsider evaluations of the relationship (Donnellan, Conger & Bryant, 2004). Agreeableness and Openness are soothing for long-term relationships in general, but there is an overall preference for so called “positive” personality traits (Penton-Voak et al., 2006). Figueredo, Sefcek and Jones (2006) found that people prefer romantic partners who are similar to themselves in the positive traits, Openness, Conscientiousness, Extraversion, and Agreeableness, but lower in the perceivably negative trait, Neuroticism. They also discovered that people believe that their partners are similar to themselves in terms of personality, regardless of whether their partner’s traits actually match theirs or not. Additionally, the presence of these more desired personality traits drive people to judge others as more facially attractive (Little, Burt & Perret, 2006).

Dominance. As a personality factor, dominance is an individual difference in temperament or behavior that may be influenced by one's genetic predispositions, hormonal balance, physical make-up, or environment and situational factors. According to Sidanius and Pratto (2001), individuals high in dominance convey a status of superiority and power, while individuals low in dominance, or submissive, are thought of as weak and non-threatening.

Importance of dominance in relationships. In fact, dominance is one of the most crucial dimensions in mate selection, along with Agreeableness and attractiveness (Bryan et al., 2011). A complementary partnership, in which one spouse is more dominant and the other is more submissive, can often be found in married couples (Buss, 1984). This complementary style of dominance also leads to more satisfying social interactions outside of marriage. Dryer and Horowitz (1997) partnered participants with lab assistants (unbeknownst to the participants) and allowed them to carry out a guided conversation. The participants described themselves as either dominant or submissive, and the assistants acted either dominant or submissive during each individual session. Afterward, the participants rated how satisfied they were with the interaction. Dominant participants were more satisfied after interacting with a submissive assistant, and submissive participants were more satisfied after interacting with a dominant assistant, demonstrating how complementary dominance styles positively influence interpersonal interactions. However, perceived similarity also came into play during the interaction. Satisfied participants believed the assistant to be similar to themselves whether or not the assistant was acting out the complementary style.

Social dominance. Huang and Liu (2005) describe Social Dominance Orientation (SDO) as a personality variable in the sense that it predicts human behavior and attitudes toward certain groups, but the focus of the orientation lies on support or disapproval of social inequality (Pratto,

Sidanius, Stallworth & Malle, 1994). They hypothesize that high or low SDO develops within an individual based on socialization. The emphasis that one's society places on gender and gender roles is particularly important to the development of SDO, which Huang and Liu (2005) predict is the reason men score higher in SDO than women. For example, in Western society, young boys are traditionally encouraged to pursue careers in leadership positions (e.g., doctor, businessman, pilot) while girls are typically steered toward helping positions (e.g., nurse, secretary, stewardess) in similar fields. In such cases, young men are socialized to be more dominating in order to achieve what is expected of them. This ultimately leads them to prefer social structures in which hierarchies, and often inequality, exist.

Studied Interactions Between the Three Factors

Attraction and personality. Men and women typically prefer partners who display positive personality traits. Even so, some research suggests that men devalue personality traits in women while women overvalue personality traits in men.

Female personality traits that males find attractive. In a personality and attraction study comparing ratings between composite photographs and true photographs of faces, Penton-Voak et al. (2006) found that men find women who are high in Agreeableness, Extraversion and Openness more attractive. They also desire partners who are responsible, sexy, competitive, and easy-going (Little et al., 2006). However, many studies suggest men do not rely on personality characteristics when judging women in attractiveness (Lewandowski, Aron & Gee, 2007). In fact, physical attractiveness tends to be the most important quality that men look for in women (Bryan, Webster & Mahaffey, 2011), and Buss (1989) determined that this preference holds steady cross-culturally: Men rated attractiveness as very important in 34 out of the 37 countries that he surveyed. Additionally, in a face-to-face study looking at social interaction quality based

on personality variables, women's attractiveness was the only significant correlate to predict interaction quality, and five-factor personality measures played no role in swaying the male raters' decisions (Berry & Miller, 2001).

Male personality traits that females find attractive. In a test that involved rating strangers in terms of personality, Ambady, Hallahan and Rosenthal (1995) concluded that women are better judges of personality than men. This would lead us to believe that women are much more concerned with a potential partner's personality than are men. Lewandowski et al. (2007) found that women rely more on trait information when making attractiveness judgments for males. In particular, women rate men who are high in Agreeableness, Conscientiousness, Extraversion, and low in Neuroticism as more attractive (Penton-Voak et al., 2006). Extraversion appears to be particularly important in terms of social interaction ratings, enough that it makes actual attractiveness obsolete (Berry & Miller, 2001). Like men, women prefer their partners to be responsible, sexy, competitive, and easy going, but they also desire partners who are assertive, mature, relaxed, warm, and less scatter-brained (Little et al., 2006).

Attraction and dominance. Judgments of facial features have been empirically evaluated for several generations. Mature, or masculine, facial features in particular seem to elicit several strong responses in dominance judgment tasks.

Mature facial features. Mature or masculine features traditionally include thin lips, square jaws (Keating, 1985), pronounced brow ridge (Little et al., 2006), thick eyebrows, and prominent cheekbones (Cunningham, Barbess & Pike, 1990). They are named in association with markers of physical maturity, and the features themselves are typically developed through testosterone increases during puberty (Fink, Neave & Seydel, 2007). Whether or not high testosterone truly signals dominance, mature features have been marked as reliable cues for

dominance perceptions in males regardless of stimulus type – photographs, face-to-face interactions, or facial composites (Fink et al., 2007; Keating, 1985; Buss, 1989; Mueller & Mazur, 1996; Berry & McArthur, 1985; McArthur & Apatow, 1984).

Dominant faces and attraction. Despite the clear-cut association between masculine facial features and perceptions of dominance, the relationship between dominant features and attractiveness is less discernible. It is commonly believed that women find men with more mature features to be more attractive, and research exists to reflect this notion (see Keating 1985; Cunningham et al., 1990). However, some studies have found no preference for mature or dominant features in men in either short- or long-term attractiveness ratings (Rhodes, 2006; Penton-Voak et al., 2007), while others have found significant negative correlations between mature features and men's facial attractiveness (Swaddle & Reiersen, 2002; Fink et al., 2007). Keating (1985) found that mature features that signal dominance in men made women appear unattractive to men. Evidently, this relationship deserves more observation.

Immature facial features. Immature facial features, on the other hand, are the opposite of mature features. The term “immature” is synonymous with other terms used in past literature, such as feminine, neonate, and baby-face. These features typically include large eyes, round jaws (Keating, 1985), small nose, large lips (Cunningham, 1986; Baudouin & Tiberghien, 2004), small chins (Little et al., 2006), and thin eyebrows (Cunningham et al., 1990). As these traits serve as the opposites of mature features, they are also considered to be signals for more submissive behavior. This association has not been explicitly stated but is implied as immature faces are characterized as physically weaker and experientially more naïve when compared to mature faces (Berry & McArthur, 1985; McArthur & Apatow, 1984). These features are most often attributed to children, young-looking adults, and females in general.

Submissive faces and attraction. Submissive features tend to be most attractive in female faces (Berry & McArthur, 1985; Keating, 1985; Rhodes, 2006). The relationship between immature features and male facial attractiveness is either negatively correlated (Berry & McArthur, 1985; Cunningham et al., 1990) or left unreported in attraction studies. Regardless, the attractiveness of submissive features is theorized to be due to the “cute response.” Lorenz (1943) speculated that immature features are attractive in adult women and children because they “[operate] as cues for caretaking responses” (as cited in Keating, 1985). The cute response suggests that weaker individuals increase their survivability by attracting more dominant and powerful mates who can provide for them.

Dominance and personality. Dominance is usually heralded as a unique personality trait, but very few studies have compared its compatibility with other personality traits.

Social dominance orientation. According to Lippa and Arad (1999), higher SDO is typically found in masculine men, and it presents as prejudice toward other groups (e.g., different races, the opposite gender, those with differing sexual orientations) through several notable personality traits. The researchers found that high SDO men are more competitive, aggressive, dominant, and disagreeable toward women, especially when gender roles are violated. In terms of the Big Five personality traits, men high in SDO are less Open, less Agreeable, and more Extraverted (Judge, Bono, Ilies & Gerhardt, 2002). Additionally, they are generally cold in demeanor and less exploitable. High SDO women display similar traits as high SDO men, but they are also less Conscientious.

Evolutionary Theories of Attraction

The vast majority of research concerning attraction, dominance and personality, as well as their interactions, refers to evolutionary roots in order to interpret results that differ between

the sexes. Evolutionary psychologists theorize that common human behaviors, preferences, and dispositions are innate, the results of millions of years of strategized mating. Of relevance to human evolutionary preferences are the theories of natural selection and sexual selection.

Natural selection was first described by Charles Darwin (1888) as the “preservation of favourable individual differences and variations, and the destruction of those which are injurious” in relation to the survivability of a species (p. 63). This theory proposes that in nature, the slightest differences in traits can sway the likelihood that an organism, humans included, will survive, reproduce, and pass on their genetic traits to a new generation. Sexual selection, in contrast, is a subset of natural selection that refers specifically to reproduction. This theory suggests that men are pitted against men, and women against women, in order to compete for reproductive mates (i.e., “combat”) and that factors of physical attractiveness increase the chances of mating and reproduction without the need for combat (i.e., “display”) (Darwin, 1871). Physical indicators of attraction were thus passed to the offspring and allowed for continued survival. In short, human ancestors that displayed certain traits ultimately bred preferences for their traits into future generations.

Predictions for attraction and dominance. The superior attractiveness of mature features in men and immature features in women supports an evolved preference for gendered facial type. In particular, these preferences provide support for the “good genes” model, which suggests that human facial preferences arose from adaptations in mate choice (Fink & Penton-Voak, 2002; Grammer et al., 2003; Thornhill & Gangestad, 1993). On a biological level, both dominant and submissive features are cues for health and genetic strength. During puberty and adolescence, testosterone contributes to the development of dominant facial features, and estrogen contributes to the continued development of submissive facial features. Both testosterone and estrogen are

taxing on the body in high doses (Fink & Penton-Voak, 2002), so the ability to remain healthy while developing dimorphic traits signals underlying genetic superiority (Thornhill & Gangestad, 1993). As a consequence, perceived dominance in men leads to higher sexual attractiveness ratings from female judges (Sadalla, Kenrick & Vershure, 1987), a matter which is likely to increase reproductive fitness for both sexes if the aforementioned cute response leads the couple into a complementary relationship.

Predictions for attraction and personality. It is likely that some modern, attractive personality traits are the lasting results of evolutionary pressures. Differing adaptive challenges during the evolutionary past are likely to have caused the split between the sexes' preferences, according to traditional evolutionary psychology (Buss, 1995). This suggests that even contemporarily, the sexes look for traits that will lead to higher reproductive success. For example, men are often perceived to be more prone to risk-taking and more dominating. These behaviors would be of use when protecting and providing for dependent children or partners. Women take on the complementary role of being more submissive and nurturing, behaviors that directly benefit childrearing. Additionally, the ability to better interpret personality signals allows females to make informed decisions on their mates. For example, Penton-Voak et al. (2007) found that women could accurately judge men in prosociality dimensions as well as their willingness to care for children from photographs and voice recordings alone.

Research results that escape the scope of evolutionary theory. Although the above citations form the most dominant theories in this literature, certain predictions have failed to gain unchallenged empirical support.

Unclear results for attraction and dominance. Dominance is hypothesized to be a major attractive trait for males, as dominance traits convey protective behavior and pack superiority.

However, facial dominance is typically perceived as unattractive in modern research (Rhodes, 2006; Penton-Voak et al., 2007; Swaddle & Reiersen, 2002; Fink et al., 2007). As attractiveness is theorized to be indicative of previous reproductive success and potential future reproductive success, the growing judgment of male dominance as unattractive displays a major flaw in well-supported evolutionary theory. There are a couple of explanations for these empirically unusual preferences. First, perceptions of high dominance include negative characteristics. For example, high dominance lowers perceptions of likeability and increases perceptions of promiscuity (Sadalla et al., 1987). However, increases in sexual promiscuity do not correlate with increased reproductive success (Mueller & Mazur, 1998), so dominance cannot be judged as a major fitness factor as sexual selection suggests. The second explanation suggests that men are rated as more attractive with only moderate levels of mature features, meaning that their faces contain both immature and mature features (Cunningham et al., 1990). These mixed features could signal more prosocial traits, such as nurturance, likeability or kindness, which would make the man a more attractive prospective partner. These results are also applicable to females, as highly dominant men and women are rated similarly in terms of life qualities: They are perceived to be more stable, more competent, and belong to a higher social class (Sadalla et al., 1987). If dominance is accompanied by more desirable life qualities, then why are highly dominant women judged to be less attractive mates? Cunningham (1986) is the only researcher to suggest that features that signal dominance are highly attractive in female faces. These findings leave the true relationship between facial attractiveness and dominance as ambiguous.

Unclear results for attraction and personality. Evolutionary theory suggests that trends in modern personality preferences arise from past trends seen in attractive and reproductively successful partnerships. Differences in personality between the sexes, then, are judged to be

natural and evolutionarily favorable – that is, these differences should be read as “attractive” to the opposite sex. However, this claim is not unconditionally supported. Costa et al. (2001) speculated that biologically based personality differences would stand constant for the sexes across cultures. They also hypothesized that gender differences would be more pronounced in developing countries that upheld strict gender roles in regard to old-fashioned belief systems. No evidence was found for either of these predictions. Costa et al. (2001) found that gender differences were scarce on average and fell in line with gender stereotypes rather than being consistent across the 26 cultures that were surveyed. These differences are also magnified in progressive countries that claim to strive for gender equality and are of less concern in countries that appear to follow traditional gender roles. The results of this meta-analysis suggest that gender differences are merely social constructions, not the result of a common evolutionary past. Given this, it is unlikely that personality traits can be deemed attractive based on gender alone.

Current Study

The current study aims to explore the factors that feed into facial attraction and to investigate the extent to which these factors fall in line with evolutionary predictions. As the majority of facial attraction research cited above was conducted twenty or more years ago, during periods of time that maintained a strong gender hierarchy and required adherence to gender roles, such as those supported by basic evolutionary theory, these hypotheses deserve reexamination in a modern context.

The broad purpose of this research is to examine the ways in which facial perceptions affect social judgments. We are specifically interested in the roles that dominance and personality variables play in judging attractiveness. Furthermore, we are interested in how these

relationships differ for male and female faces and how the participants' own social beliefs may influence their preferences.

In accordance with evolutionary theory, we hypothesize that (A) the facial presence of perceived dominance will lead women to be judged as less attractive and men as more attractive. (B) Attraction preference will lean toward faces whose personality traits fit evolutionarily appropriate dominance profiles. In other words, females will be judged as more attractive if they are rated higher in submissive traits like Openness, Agreeableness, and Warmth, and lower in Extraversion, Conscientiousness, and Competence. Males will be judged as more attractive if they are rated higher in dominant traits like Extraversion, Conscientiousness, and Competence, and lower in Openness, Agreeableness, and Warmth. Neither sex is likely to be rated as attractive if they are perceived to be high in Neuroticism. Finally, (C) target gender differences in dominance and personality ratings will be larger if the participant is high in social dominance orientation (SDO) and also receives a low score on the Attitudes Toward Women scale (AWS), which align with suggested evolutionary attitudes.

Method

Participants

103 participants (46 male, 56 female, 1 unidentified) were recruited from Amazon's Mechanical Turk. These individuals read descriptions of different online surveys/experiments and decided to participate in the present study. Participants were required to be American. Participants were paid \$1.00 for the completion of the survey.

Of the total participants, reported ages ranged from 21 to 76 years, and the average age of the sample was 40.56 years. 87.3% of participants identified themselves as heterosexual. Ethnically, the sample was predominantly White/Caucasian (72.8%), with fewer participants

identifying as African American (15.5%), Asian American (7.9%), Hispanic/Latin(o/a) (1.9%), or of mixed ethnicity (1.9%). Nearly 80% of the participants also indicated that they attended a university or college.

Research Design

A 2 (Target Gender: Male or Female; within-participant) x 2 (Participant Gender: Male or Female; between-participant) mixed design was used to determine the effect of target and participant gender on perceptions of three dependent variables: attraction, dominance, and personality. Additionally, we collected individual difference measures on Social Dominance Orientation (SDO) and Attitudes Toward Women scale (AWS) to determine the degree to which between-participant differences on these scales are related to Target Gender effects (more detail on these models are given in the Results section dealing with Hypothesis A). We also randomly assigned participants to one of three conditions, each of which viewed a different set of 20 faces. Which face set the participants viewed did not moderate or affect our results and will not be discussed further.

Materials/Measures

Qualtrics. The study was developed and implemented using Qualtrics. Qualtrics is a free, user-friendly survey generator for professional-grade work. Participants were sent the survey through a link posted on Amazon's Mechanical Turk. The survey was split into 12 blocks to organize the instructions, dominance sets, personality sets, attraction sets, demographics and debriefing sections. The survey allowed for the automated randomization of the participant group assignments and the block order within those groups.

Photograph sets. 60 faces (30 female, 30 male) from the Chicago Face Database (CFD; Ma, Correll & Wittenbrink, 2015) were used. Targets were pictured from the shoulders up,

centered in the photos, and all were wearing plain grey shirts. The background of each photograph was edited to be solid white, and this does not look unnatural. The faces themselves were unedited. The photographed targets all self-identified as white. The females wore little to no makeup, and long hair was left down or pulled back in a ponytail. The CFD also contains ratings of the faces on distinctiveness, attractiveness, and age (among other ratings). After obtaining 60 faces from the CFD, each face was randomly assigned to one of three face sets. It was ensured that each face set was rated to be equivalent in age, attractiveness, and distinctiveness. Each photograph was displayed as an 899 x 631 pixel rectangle.

Attraction scale. In order to preserve the subjective nature of attraction judgments, participants were not given instructions for this scale. They were simply given the prompt reading “How attractive is this person?” The scale is a 5-point Likert design and ranges from “Very Attractive” to “Very Unattractive.”

Personality scale. Measures of the Big Five Factor model of personality tend to be long questionnaires. To avoid participant boredom while rating 20 pictures, we employed the shortest personality scale possible. Borkenau, Brecke, Möttig and Paelecke’s (2009) bipolar adjective scale is an accurate measure of Big Five dimensions, and it is comparable to Costa and McCrae’s NEO Five Factor Inventory. Originally, the scale consisted of six bipolar adjectives to measure Openness (creative-uncreative), Conscientiousness (careless-conscientious), Extraversion (gregarious-restrained), Agreeableness (agreeable-quarrelsome), and Neuroticism (relaxed-hypertensive), as well as Competence (competent-incompetent). We altered the adjectives used in the Conscientiousness (*careless-diligent*), Extraversion (*outgoing-shy*), and Neuroticism (*relaxed-emotional*) dimensions for clarity. Additionally, we added a measure for Warmth using adjectives proposed in Cuddy, Fiske and Glick (2008) that reads “friendly-unfriendly.” The

original bipolar adjective scale is measured with a 6-point Likert scale, but for this study, we chose to simplify the responses with a 5-point Likert scale. Participants used this scale to rate targets as well as themselves.

Dominance scale. Participants rated the target photographs using a simple dominance prompt. The prompt reads, “A dominant person is someone who looks important, powerful, and controlling. Dominant people are seen as leaders. A submissive person is someone who looks easily controllable and willing to obey. Submissive people are seen as followers.” Targets were then rated using a 5-point Likert scale that ranges from “Very Submissive” to “Very Dominant.”

Social Dominance Orientation Scale. Participant SDO attitudes were measured using Sidanius and Pratto’s (2001) SDO-6. The SDO-6 is a 16-question measure in which participants rate each statement on a 7-point Likert scale that ranges from “Strongly Disagree” to “Strongly Agree.” Sample items from this scale included phrases such as “We should strive to make incomes as equal as possible” (reverse-coded) and “Some groups of people are simply inferior to other groups.” A prompt notified participants that this scale contains no right or wrong answers, only opinions.

Attitudes Toward Women Scale. The participants’ preferences for gender stereotypes and roles were measured using the shortened version of the Attitudes toward Women Scale (AWS) proposed by Spence, Helmreich and Stapp (1973). This is a 25-question measure in which participants rate each statement on a 4-point Likert scale that ranges from “Strongly Agree” to “Strongly Disagree.” Sample items from the AWS included phrases like “Women should worry less about their rights and more about becoming good wives and mothers” (reverse-coded) and “It is insulting to women to have the ‘obey’ clause remain in the marriage service.” A prompt notified participants that this scale contains no right or wrong answers, only

opinions.

Demographic questionnaire. Lastly, the participants provided anonymous demographic information. This included questions of age, gender, race, their student status, and romantic orientation.

Procedure

One hundred and three participants found the study through Amazon's Mechanical Turk and completed the study through the survey website Qualtrics. This allowed them to complete the survey in an environment of their choosing. After reading the informed consent pages and agreeing to continue, the participants were randomly assigned to one of three face sets without their knowledge. After assignment to a particular face set, all participants made the same ratings and answered the same questions in a random order.

The first block was the Dominance Set. In this block, participants viewed 20 faces, 10 female and 10 male. They were prompted to rate the faces on a 5-point Likert scale that ranged from "Very Submissive" to "Very Dominant."

The second block was the Personality Set. In this block, the participants viewed the same set of 20 faces. The first page notified them to make personality judgments. Participants then answered "Which traits best fit this person?" using a variant of the bipolar adjective scale described in Borkenau et al. (2009). The scale was measured on a 5-point Likert scale for this survey.

The third block was the Attraction Set. In this block, the participants viewed the same 20 faces that they rated in the previous blocks. The first page notified the participants to rate the faces in terms of attractiveness. Each face was then presented alone with the prompt "How attractive is this person?" with a scale ranging from "Very Unattractive" to "Very Attractive."

After the three blocks, the participants were presented with a block of self-rated questions. This includes a brief demographics questionnaire, a personality measure, an SDO scale, and the AWS scale. These were the last assessments, and the survey ended with a debriefing page. The survey lasted 28 minutes on average.

Results

Hypothesis A: The Attraction and Dominance Relationship as a Function of Target Gender

In Hypothesis A, we predicted that targets rated high in dominance would be rated as more attractive if they were male and less attractive if they were female. Thus, we examined attractiveness ratings as a function of dominance ratings, target gender, and the interaction between dominance and target gender using stimulus-level data. In order to form the stimulus-level data set, we computed an average of all the perceiver ratings on each dimension for each individual face. Collapsing across target gender, dominance was found to have a minimal positive effect on attractiveness. In other words, targets who were rated higher in dominance were more likely to be rated higher in attractiveness, but this relationship was not significant, $t(56) = 1.502, p = 0.139$. A marginal target gender effect was found for attractiveness, which supported the previously mentioned finding that female targets were rated as more attractive than male targets overall, $t(56) = -2.473, p < 0.05$. Lastly, and the most critical point for this hypothesis, the interaction between target gender and dominance was not significant, $t(56) = -0.530, p = 0.598$. There was no evidence in this data that suggested the relationship between dominance and attractiveness changed due to target gender (relationship between attractiveness and dominance for female targets: $r = 0.25$; for male targets: $r = 0.14$). In short, we found no support for Hypothesis A using these stimulus-level analyses.

Hypothesis B: The Attraction and Personality Relationship as a Function of Target Gender

In Hypothesis B, we predicted that females will be judged as more attractive if they are rated higher in Openness, Agreeableness, and Warmth, and lower in Extraversion, Conscientiousness, Neuroticism, and Competence, and males will be judged as more attractive if they are rated higher in Extraversion, Conscientiousness, and Competence, and lower in Openness, Agreeableness, Neuroticism, and Warmth.

Personality ratings as a function of target gender. On average, male targets were rated higher than female targets in Openness, Conscientiousness, Agreeableness, Warmth, and Competence. Female targets were rated higher than male targets in Extraversion and Neuroticism (see Table 2a for average scores). However, these differences were only significant for Conscientiousness, Warmth, and Extraversion (See Table 2b).

Female targets: attraction and personality relationships. According to correlations for female target ratings in Table 1a, female faces were more likely to be rated as attractive if they also received higher ratings in Openness, Extraversion, Warmth, and Competence. A smaller, but still positive, relationship was observed for attraction ratings and Agreeableness ratings. On the other hand, negative relationships between attractiveness ratings and higher ratings of Conscientiousness and Neuroticism were also observed.

Male targets: attraction and personality relationships. According to correlations for male target ratings in Table 1b, male faces were more likely to be rated as attractive if they also received higher ratings in Openness, Extraversion, Agreeableness, Warmth, and Competence. Additionally, negative relationships between attractiveness ratings and higher ratings of Conscientiousness and Neuroticism were also observed.

To further investigate these relationships, we ran 7 models to look at attractiveness ratings as a function of personality variable ratings, target gender, and the interaction between

individual personality variables and target gender. Collapsing across target gender, most of the personality variables (Openness, Extraversion, Agreeableness, Warmth, and Competence) were found to have a significant positive effects on attractiveness at $p < 0.01$ or less, $p < 0.001$, except for Conscientiousness and Neuroticism, which were significantly negatively related to attractiveness at $p < 0.001$. A significant target gender effect was also observed at the mean level of each personality variable at $p < 0.05$. Of the most importance for this hypothesis, the interaction between personality ratings and target gender only revealed one marginal effect. The relationship between attractiveness and Agreeableness relied on the target's gender, $t(56) = -1.778$, $p < 0.1$, such that the male target relationship was significantly greater than the female target relationship. No significant effects were found for the other personality variables. Because the relationship between attractiveness and personality variables did not depend on target gender, we conclude that there is no support in this data for Hypothesis B.

Hypothesis C: Target Gender Differences as a Function of Participant SDO and AWS

In Hypothesis C, we predicted that target gender differences in dominance and personality ratings would be larger if participants scored high in SDO and low in AWS. To begin looking at Hypothesis C, we performed a participant-level analysis that took individual SDO and AWS scores into account. For each participant, we first computed the difference scores between male and female target faces for each personality variable, dominance, and attractiveness. We then regressed the difference scores on the participants' SDO scores (mean-deviated) and AWS scores (mean-deviated), separately.

Participant SDO analysis: target gender controlling for SDO. When controlling for participant SDO scores, significant differences between male and female target ratings were found for Conscientiousness, Extraversion, Warmth, and attractiveness (see Table 4a for all

values). Male target faces were rated as significantly more Conscientious, $t(102) = 2.00, p < 0.05$, and more Warm, $t(102) = 2.21, p < 0.05$, than female target faces when controlling for participant SDO scores. Female target faces were rated as significantly more Extraverted, $t(102) = -2.19, p < 0.05$, as well as more attractive, $t(102) = -6.74, p < 0.001$, than male faces.

SDO by target gender by personality interaction. There was a marginal interaction between SDO score and target gender with attractiveness scores as the dependent variable, $t(100) = 1.851, p < 0.1$. Individuals who scored one standard deviation below the mean on SDO tended to rate females as significantly more attractive than males (simple effect: $t(100) = -6.037, p < 0.001$) and individuals who scored one standard deviation above the mean on SDO also tended to rate females as significantly more attractive than males (simple effect: $t(100) = -3.412, p < 0.001$). There were no other significant interactions for SDO scores and personality variables or target dominance.

Because no clear relationships emerged in support of high participant SDO scores having a strong effect on the differences in attractiveness of certain personality variables or dominance, we conclude that the data shows no evidence in support of this half of Hypothesis C.

Participant AWS analysis: target gender controlling for AWS. Only a few significant differences were found between target ratings when participant AWS scores were controlled (see Table 4b for all values). When controlling for participant AWS scores, male target faces were rated as more Conscientious, $t(102) = 2.00, p < 0.05$, and more Warm, $t(102) = 2.27, p < 0.05$, than female target faces. Female target faces were rated as more Extraverted, $t(102) = -2.19, p < 0.05$, as well as more attractive, $t(102) = -6.66, p < 0.001$, than male faces.

AWS by target gender by personality interaction. A few AWS x Target Gender interactions were found for the variables Agreeableness, Neuroticism, Warmth, and Competence.

There was a significant interaction between AWS score and target gender with Agreeableness scores as the dependent variable, $t(100) = -2.694, p < 0.01$. Individuals who scored one standard deviation below the mean on AWS tended to rate males as significantly more Agreeable than females (simple effect: $t(100) = 2.944, p < 0.01$). In contrast, individuals who scored one standard deviation above the mean on AWS tended to rate females as slightly more Agreeable than males (simple effect: $t(100) = -0.875, p = 0.384$). There was a significant interaction between AWS score and target gender with Neuroticism scores as the dependent variable, $t(100) = 2.793, p < 0.01$. Individuals who scored one standard deviation below the mean on AWS tended to rate females as significantly more Neurotic than males (simple effect: $t(100) = -3.296, p < 0.01$). In contrast, individuals who scored one standard deviation above the mean on AWS tended to rate males as slightly more Neurotic than females (simple effect: $t(100) = 0.663, p = 0.509$). There was a significant interaction between AWS scores and target gender with Warmth scores as the dependent variable, $t(100) = -2.502, p < 0.05$. Individuals who scored one standard deviation below the mean on AWS tended to rate males as significantly more Warm than females (simple effect: $t(100) = 3.355, p < 0.01$). In contrast, individuals who scored one standard deviation above the mean on AWS tended to rate females as slightly more Warm than males (simple effect: $t(100) = -0.192, p = 0.848$). There was a significant interaction between AWS score and target gender with Competence scores as the dependent variable, $t(100) = -2.848, p < 0.01$. Individuals who scored one standard deviation below the mean on AWS tended to rate males as slightly more Competent than females (simple effect: $t(100) = 1.547, p = 0.125$). In contrast, individuals who scored one standard deviation above the mean on AWS tended to rate females as significantly more Competent than males (simple effect: $t(100) = -2.490, p < 0.05$).

In terms of evidence for Hypothesis C, only two relationships emerged between AWS scores and ratings of Agreeableness and Warmth that fell in line with predicted patterns.

Participants who scored higher in gender equality rated male faces that they perceived to be more Agreeable and Warm as more attractive. As AWS scores increased, signifying a preference for gender inequality, Agreeable and Warm female faces were rated as more attractive, but this effect was not significant. As no clear relationships emerged to suggest that low participant AWS scores strongly affect preferences for any other personality variables or dominance in terms of attraction, we conclude that the data shows only marginal evidence in support of Hypothesis C.

Personality and Dominance Relationships

Female targets. For female targets, ratings of dominance were strongly correlated with higher ratings of Extraversion and Neuroticism (see Table 1a). Dominance ratings were also strongly negatively correlated with higher ratings of Agreeableness and Warmth and weakly negatively correlated with higher ratings of Openness and Competence. There was no relationship between dominance ratings and ratings of Conscientiousness.

Male targets. For male targets, dominance ratings were only weakly positively correlated with ratings of Competence and Neuroticism (see Table 1b). Negative correlations were observed between males rated higher in Openness, Conscientiousness, Extraversion, Agreeableness, and Warmth and ratings of dominance.

Ratings as a Function of Target Gender X Participant Gender

Target gender differences: male participant ratings. On average, male participants rated male targets very similarly to female targets (see Table 3b). Male participants rated male targets as slightly higher in Conscientiousness, Agreeableness, and Warmth than female targets, and slightly lower than female targets in Openness, Extraversion, Neuroticism, and Competence.

Male participants also rated male targets as more dominant than female targets. However, male participants also rated male targets as less attractive than female targets.

Target gender differences: female participant ratings. On average, female participants also rated male and female targets very similarly (see Table 3a). Female participants rated female targets to be slightly higher in Extraversion, Neuroticism, and Competence than male targets. Female participants also rated female targets as slightly lower than male targets in Openness, Conscientiousness, Agreeableness, and Warmth. Additionally, female participants rated female targets as less dominant than male targets. However, female participants rated female targets as more attractive than male targets.

Discussion

Summary

The main goal of this research was to investigate whether contemporary attraction preferences leaned toward certain dominance or personality factors that have been cited as evolutionarily favorable in nature. Additionally, we wanted to evaluate how participant personality factors and social beliefs affected such preferences. In order to test these ideas, we aligned our hypotheses with popular evolutionary findings. We predicted that (A) male targets would be judged as more attractive if they were perceived to be dominant, and female targets would be judged as more attractive if they were perceived to be submissive; (B) male targets would be rated as more attractive if they were also rated high in Extraversion, Conscientiousness, and Competence, and low in Openness, Agreeableness, and Warmth, while female targets would be rated as more attractive if they were rated high in Openness, Agreeableness, Warmth, and Incompetence, and lower in Extraversion, Conscientiousness, and Competence; (C) target gender

differences in ratings of dominance and personality will be larger if the participant is high in SDO and low in AWS.

The results of the present study did not adhere to our predictions. High dominance was not rated as attractive in either male or female targets. These correlations were very small, which suggests that participants had very little preference for either dominance or submissiveness while making attraction ratings. In terms of personality and attraction, our prediction that high Neuroticism would be judged as unattractive was supported in the data. However, males rated higher in Openness, Extraversion, Agreeableness, Warmth, and Competence, and lower in Conscientiousness were also rated as more attractive. Attractive female targets were rated as high in Openness, Extraversion, Warmth, and Competence, and low in Conscientiousness. This shows a preference for a mix of dominant and submissive personality traits in both sexes. Additionally, participants' personality variables and social attitudes did not shift their decisions in the directions that we predicted. In fact, SDO scores had virtually no effect on target gender differences in ratings, and AWS scores had a small effect on only a couple variables. Overall, participants showed minimal differences in their ratings of male and female targets.

Interpretations

As our analyses failed to find support for our evolutionarily based hypotheses, we instead turn toward social theories in order to explain the lack of structured or strategic preferences observed in our participant sample. Interestingly, the relationships between attractiveness, dominance, and personality variables were largely independent of the gender of the target face, and participants scored high on the AWS scale on average. This suggests that the participants held a general belief in supporting gender equality and dismantling stereotypical gender roles.

Due to this, we propose that our results are best explained by feminist theories of social constructionism and gender roles.

Feminist perspective. Researchers Eagly and Wood (2011; 2013) developed a biosocial constructionist theory of sex differences and similarities that finds its foundation within evolutionary pressures but ultimately focuses on how gender roles and socialization divide labor between the sexes. They argue that the jobs assigned to men and women, such as caretaker, breadwinner, or politician, shape gender differences in terms of mate preferences and attitudes toward gender roles within society. Additionally, Eagly (1997) elaborates that due to the differential treatment of the sexes within the workplace, social expectations are developed for each sex. These expectations may begin in childhood and appear as simple as boys and girls being given different toys or being taught what is acceptable (“Boys will be boys”), but in adulthood, these expectations pressure the sexes into behaving in accordance with social stereotypes of men and women. This, in turn, pushes the sexes into occupations that society has deemed appropriate. This account suggests that the wider acceptance of women in traditionally male dominated occupations due to feminist movements promotes a shift in traditional female and male gender roles and, accordingly, their preferences in social spheres.

Feminist critique of evolutionary consequences. Self-proclaimed feminist authors and researchers that explore work on attraction and mate preferences tend to view evolutionary theory as socially limited. They find that many evolutionary hypotheses are belittling to women and serve to enable the domination of women in the social hierarchy. The effects perpetuated by traditional evolutionary ideas, for example, support dividing the sexes between dominant and submissive roles and characteristics, with males encompassing all that is dominant and limiting the possibility of true social equality for women (See Eagly & Wood, 2011 for a summary). To

say that these roles are innate and therefore only mildly affected by environmental circumstances leaves little room for improvement within the theory or within a social world that may be protected by such a theory. For example, some evolutionary psychologists cite rape as an acceptable means to improve male fitness (Thornhill & Palmer, 2000). While this may sound horrific, it is not uncommon to find crimes against women protected as acts of nature. In response to this subject, Buss (1995), a prominent evolutionary psychologist, wrote “[W]e must confront the truth about our human nature, however disturbing it may turn out to be” (p. 85). Gowaty (2003), on the other hand, argues that various traits and behaviors are more likely to have risen due to strenuous conditions, such as the number of available partners, and that such conditions fluctuate both in the animal world and in human social relations.

The importance of social impact within these studies. Primarily, feminist scholars are eager to demonstrate how widespread gender inequality fuels the desire to find gender differences in research. Two studies have contested Buss’s (1989) cross-cultural support for evolutionary theory. In the first, Zentner and Mitura (2012) surveyed 3,177 participants from 10 nations. They found that sex differences in mate preferences decreased as the nation’s gender equality rating increased. In the second, Eagly and Wood (2013) found the same trend within Buss’s (1989) own data. They framed their findings in terms of gender roles within the labor system – participants preferred mates with less traditional roles in countries with higher gender equality. Both of these studies promote the idea that minimizing the social and economic differences between the sexes results in more similar attitudes toward potential mates. That is, removing gendered socialization also removes the attraction to perceived gender differences. Furthermore, in 2014, the United States was ranked 20th in the world for gender equality, earning 0.7463 out of the highest possible score of 1 (representing total gender equality), which may

provide some insight to the results of the present research (Hausmann, Tyson, Bekhouche & Zahidi, 2015).

Predictions of feminist research. While the evolutionary perspective suggests that sex differences are innate and typically unaffected by social change, feminists are more prone to predict similarities between the sexes. However, individual positions in this realm are often complicated and cannot fall neatly into “similar” or “different” camps (Eagly & Wood, 2011). Instead, many feminist psychologists prefer the notion that social context shapes how similar or different the sexes are. The intersectionality perspective, for example, specifically states, “male–female difference and similarity are patterned by other important social identities such as race, ethnicity, social class, handicap, and sexual orientation” (e.g., Col, 2009; Shields, 2008, quoted in Eagly & Wood, 2011, p. 761). This explanation emphasizes the importance of identities other than gender and instead points to other learned social norms, such as beliefs about dominance and gender roles in general. In this regard, feminist psychologists have not formed empirical predictions concerning the interactions of attraction, dominance, and personality as evolutionary psychologists have. However, such interactions are expected to be shaped by the participants’ various social beliefs and thus reflected in their social preferences, attraction included.

Limitations

A few factors may have impacted the quality of our findings. First, this study would have benefitted from a larger sample size. More relationships within the data would likely pop up given a sample of a few hundred participants. We did not compute a power analysis for our sample size, so we cannot say exactly how significant our results are in total. Second, the wide range of ages within our participants (21 – 76 years) may have affected the data given the small sample size. The majority of our participants were younger than 45 years old, but it is possible

that age may have affected the participants' rating styles. For example, older participants' preferences may have aligned more closely with our predictions due to the traditional social eras that they grew up in. These possible trends were not analyzed. Third, the presentation of faces within face sets may have limited the conclusions that we can draw. Participants always saw female faces first in a block, and these faces were not randomized within their gender. This limits the inferences that we can make about target gender, as our results may be due to an order effect rather than a target gender effect. Last, it is possible that "dominance" may mean something different for male and female faces. Participants may not have followed the dominance prompts that we provided and came up with their own dominance rules for faces.

Future Directions

With these limitations in mind, future researchers have the opportunity to reexamine our results in novel experiments. Follow-up studies may replicate our research by employing entirely different designs. For example, one such study may prime participants into high SDO and low AWS attitudes using videos, short stories, or personal essays. This may shift male and female participant judgments in bipolar directions. Another study may focus on how these judgments differ between LGBTQA+ participants and heteronormative participants or elderly participants and young adult participants. This may reveal how attraction and personality preferences may be attributed to different social beliefs and lifestyles.

Conclusion

In sum, the present research provides evidence that some basic tenets of evolutionary psychology are not as black and white as they are proposed to be. Most research on attraction promotes a set dichotomy between the preferences of men and women. Researchers explain that these dichotomies exist even modernly – the results of millions of years of selection practices,

the most successful path to survival. However, the present study shows almost no relationship between attractiveness and perceived dominance, a supposedly major component of attraction and complementary relationship success. Likewise, no specific preferences were found for personality variables meant to imply dominance or submissiveness. Rather, the only significant predictor for participants' preferences, in some cases, lay in their scores on the Attitudes Toward Women scale (AWS). The vast majority of participants indicated that they supported gender equality and rejected traditional gender roles. With these social beliefs, the participants may have taken steps away from many gender stereotypes that have been perpetuated by biological sciences such as evolutionary theory. The current study, therefore, endorses previous work (namely Zentner & Mitura, 2012; Eagly & Wood, 2013) that proposed that preference for gender stereotypes disappears in countries with egalitarian values. As mentioned previously, the majority of evolutionary support for attraction preferences was declared decades ago. We may find through further research that these preferences are predominantly the results of social attitudes during certain timeframes. If the United States continues to progress as an egalitarian nation, it is possible that predictable gender differences and preferences may disappear altogether.

References

- Ambady, N., Hallahan, M., & Rosenthal, R. (1995). On judging and being judged accurately in zero-acquaintance situations. *Journal of Personality and Social Psychology*, *69*(3), 518.
- Baudouin, J. Y., & Tiberghien, G. (2004). Symmetry, averageness, and feature size in the facial attractiveness of women. *Acta psychologica*, *117*(3), 313-332.
- Berry, D. S., & McArthur, L. Z. (1985). Some components and consequences of a babyface. *Journal of personality and social psychology*, *48*(2), 312.
- Borkenau, P., Brecke, S., Möttig, C., & Paelecke, M. (2009). Extraversion is accurately perceived after a 50-ms exposure to a face. *Journal of Research in Personality*, *43*(4), 703-706.
- Berry, D. S., & Miller, K. M. (2001). When boy meets girl: Attractiveness and the five-factor model in opposite-sex interactions. *Journal of Research in Personality*, *35*(1), 62-77.
- Bryan, A. D., Webster, G. D., & Mahaffey, A. L. (2011). The big, the rich, and the powerful: Physical, financial, and social dimensions of dominance in mating and attraction. *Personality and Social Psychology Bulletin*, *37*(3), 365-382.
- Buss, D. M. (1984). Marital assortment for personality dispositions: Assessment with three different data sources. *Behavior Genetics*, *14*(2), 111-123.
- Buss, D. M. (1989). Sex differences in human mate preferences: Evolutionary hypotheses tested in 37 cultures. *Behavioral and brain sciences*, *12*(01), 1-14.
- Buss, D. M. (1995). Psychological sex differences: Origins through sexual selection.
- Costa Jr, P., Terracciano, A., & McCrae, R. R. (2001). Gender differences in personality traits across cultures: robust and surprising findings. *Journal of personality and social psychology*, *81*(2), 322.

- Costa, P. T., & McCrae, R. R. (1992). Normal personality assessment in clinical practice: The NEO Personality Inventory. *Psychological assessment*, 4(1), 5.
- Cuddy, A. J., Fiske, S. T., & Glick, P. (2008). Warmth and competence as universal dimensions of social perception: The stereotype content model and the BIAS map. *Advances in experimental social psychology*, 40, 61-149.
- Cunningham, M. R. (1986). Measuring the physical in physical attractiveness: quasi-experiments on the sociobiology of female facial beauty. *Journal of personality and social psychology*, 50(5), 925.
- Cunningham, M. R., Barbee, A. P., & Pike, C. L. (1990). What do women want? Facialmetric assessment of multiple motives in the perception of male facial physical attractiveness. *Journal of personality and social psychology*, 59(1), 61.
- Darwin, C. (1871) *The descent of man and selection in relation to sex*. London: Murray.
- Darwin, C. (1888). *The Origins of Species by Means of Natural Selection, Or the Preservation of Favoured Races in the Struggle for Life*. Kartindo. Com.
- Dion, K., Bers Dipboye cheid, E., & Walster, E. (1972). What is beautiful is good. *Journal of personality and social psychology*, 24(3), 285.
- Dipboye, R. L., Arvey, R. D., & Terpstra, D. E. (1977). Sex and physical attractiveness of raters and applicants as determinants of resumé evaluations. *Journal of Applied Psychology*, 62(3), 288.
- Donnellan, M. B., Conger, R. D., & Bryant, C. M. (2004). The Big Five and enduring marriages. *Journal of Research in Personality*, 38(5), 481-504.

- Dryer, D. C., & Horowitz, L. M. (1997). When do opposites attract? Interpersonal complementarity versus similarity. *Journal of personality and social psychology*, 72(3), 592.
- Eagly, A. H., Ashmore, R. D., Makhijani, M. G., & Longo, L. C. (1991). What is beautiful is good, but...: A meta-analytic review of research on the physical attractiveness stereotype. *Psychological bulletin*, 110(1), 109.
- Eagly, A. H. (1997). Sex differences in social behavior: comparing social role theory and evolutionary psychology.
- Eagly, A. H., & Wood, W. (2011). Feminism and the evolution of sex differences and similarities. *Sex Roles*, 64(9-10), 758-767.
- Eagly, A. H., & Wood, W. (2013). Feminism and evolutionary psychology: Moving forward. *Sex roles*, 69(9-10), 549-556.
- Feingold, A. (1994). Gender differences in personality: a meta-analysis. *Psychological bulletin*, 116(3), 429.
- Figueredo, A. J., Sefcek, J. A., & Jones, D. N. (2006). The ideal romantic partner personality. *Personality and Individual Differences*, 41(3), 431-441.
- Fink, B., & Penton-Voak, I. (2002). Evolutionary psychology of facial attractiveness. *Current Directions in Psychological Science*, 11(5), 154-158.
- Fink, B., Neave, N., & Seydel, H. (2007). Male facial appearance signals physical strength to women. *American Journal of Human Biology*, 19(1), 82-87.
- Grammer, K., Fink, B., Møller, A. P., & Thornhill, R. (2003). Darwinian aesthetics: sexual selection and the biology of beauty. *Biological Reviews*, 78(3), 385-407.

- Hassin, R., & Trope, Y. (2000). Facing faces: studies on the cognitive aspects of physiognomy. *Journal of personality and social psychology*, 78(5), 837.
- Hausmann, R., Tyson, L., Bekhouche, Y., & Zahidi, S. (2015). Global Gender Gap Report 2014 - Rankings. Retrieved June 18, 2015, from <http://reports.weforum.org/global-gender-gap-report-2014/rankings/>
- Huang, L. L., & Liu, J. H. (2005). Personality and social structural implications of the situational priming of social dominance orientation. *Personality and Individual Differences*, 38(2), 267-276.
- Huston, T. L., & Houts, R. M. (1998). The psychological infrastructure of courtship and marriage: The role of personality and compatibility in romantic relationships. *The developmental course of marital dysfunction*, 114-151.
- Judge, T. A., Bono, J. E., Ilies, R., & Gerhardt, M. W. (2002). Personality and leadership: a qualitative and quantitative review. *Journal of applied psychology*, 87(4), 765.
- Keating, C. F. (1985). Gender and the physiognomy of dominance and attractiveness. *Social psychology quarterly*, 61-70.
- Langlois, J. H., Kalakanis, L., Rubenstein, A. J., Larson, A., Hallam, M., & Smoot, M. (2000). Maxims or myths of beauty? A meta-analytic and theoretical review. *Psychological bulletin*, 126(3), 390.
- Lewandowski, G. W., Aron, A., & Gee, J. (2007). Personality goes a long way: The malleability of opposite-sex physical attractiveness. *Personal Relationships*, 14(4), 571-585.
- Lippa, R., & Arad, S. (1999). Gender, personality, and prejudice: The display of authoritarianism and social dominance in interviews with college men and women. *Journal of Research in Personality*, 33(4), 463-493.

- Little, A. C., Burt, D. M., & Perrett, D. I. (2006). What is good is beautiful: Face preference reflects desired personality. *Personality and Individual Differences, 41*(6), 1107-1118.
- Lorenz K (1943). The innate forms of potential experience. *Zeitschrift für Tierpsychologie, 5*, 234-409.
- Ma, D. S., Correll, J., & Wittenbrink, B. (2015). The Chicago face database: A free stimulus set of faces and norming data. *Behavior research methods, 1*-14.
- McArthur, L. Z., & Apatow, K. (1984). Impressions of baby-faced adults. *Social Cognition, 2*(4), 315-342.
- Mueller, U., & Mazur, A. (1996). Facial dominance of West Point cadets as a predictor of later military rank. *Social forces, 74*(3), 823-850.
- Mueller, U., & Mazur, A. (1998). Reproductive constraints on dominance competition in male Homo sapiens. *Evolution and human behavior, 19*(6), 387-396.
- Norman, W. T. (1963). Toward an adequate taxonomy of personality attributes: Replicated factor structure in peer nomination personality ratings. *The Journal of Abnormal and Social Psychology, 66*(6), 574.
- Olson, I. R., & Marshuetz, C. (2005). Facial attractiveness is appraised in a glance. *Emotion, 5*(4), 498.
- Penton-Voak, I. S., Pound, N., Little, A. C., & Perrett, D. I. (2006). Personality judgments from natural and composite facial images: More evidence for a “kernel of truth” in social perception. *Social Cognition, 24*(5), 607-640.
- Penton-Voak, I. S., Cahill, S., Pound, N., Kempe, V., Schaeffler, S., & Schaeffler, F. (2007). Male facial attractiveness, perceived personality, and child-directed speech. *Evolution and human behavior, 28*(4), 253-259.

- Pratto, F., Sidanius, J., Stallworth, L. M., & Malle, B. F. (1994). Social dominance orientation: A personality variable predicting social and political attitudes. *Journal of personality and social psychology*, 67(4), 741.
- Rhodes, G. (2006). The evolutionary psychology of facial beauty. *Annu. Rev. Psychol.*, 57, 199-226.
- Sadalla, E. K., Kenrick, D. T., & Vershure, B. (1987). Dominance and heterosexual attraction. *Journal of Personality and Social Psychology*, 52(4), 730.
- Sidanius, J., & Pratto, F. (2001). *Social dominance: An intergroup theory of social hierarchy and oppression*. Cambridge University Press.
- Spence, J. T., Helmreich, R., & Stapp, J. (1973). A short version of the Attitudes Toward Women Scale (AWS). *Bulletin of the Psychonomic Society*, 2(4), 219-220.
- Swaddle, J. P., & Reiersen, G. W. (2002). Testosterone increases perceived dominance but not attractiveness in human males. *Proceedings of the Royal Society of London B: Biological Sciences*, 269(1507), 2285-2289.
- Thornhill, R., & Gangestad, S. W. (1993). Human facial beauty. *Human nature*, 4(3), 237-269.
- Thornhill, R., & Palmer, C. T. (2000). A natural history of rape.
- White, J. K., Hendrick, S. S., & Hendrick, C. (2004). Big five personality variables and relationship constructs. *Personality and Individual Differences*, 37(7), 1519-1530.
- Willis, J., & Todorov, A. (2006). First impressions making up your mind after a 100-ms exposure to a face. *Psychological science*, 17(7), 592-598.
- Zentner, M., & Mitura, K. (2012). Stepping Out of the Caveman's Shadow Nations' Gender Gap Predicts Degree of Sex Differentiation in Mate Preferences. *Psychological science*, 23(10), 1176-1185.

Appendix

Table 1a
Rating Correlations for Female Targets ($n = 30$)

	O	C	E	A	N	W	Com	DOM	ATT
O	1.00	-0.81	0.53	0.57	0.73	0.73	0.90	-0.05	0.72
C	-0.81	1.00	-0.32	-0.52	-0.71	0.65	-0.83	0.01	-0.57
E	0.53	-0.32	1.00	-0.52	-0.71	-0.65	-0.83	0.66	0.68
A	0.57	-0.52	-0.52	1.00	0.90	0.93	0.79	-0.70	0.19
N	0.73	-0.71	-0.71	0.90	1.00	0.96	0.90	0.45	-0.39
W	0.73	0.65	-0.65	0.93	0.96	1.00	0.90	-0.50	0.33
Com	0.90	-0.83	-0.83	0.79	0.90	0.90	1.00	-0.26	0.59
DOM	-0.05	0.01	0.66	-0.70	-0.45	-0.50	-0.26	1.00	0.25
ATT	0.72	-0.57	0.68	0.19	-0.39	-0.33	0.59	0.25	1.00

Note: O = Openness, C = Conscientiousness, E = Extraversion, A = Agreeableness, N = Neuroticism, W = Warmth, Com = Competence, DOM = Dominance, and ATT = Attractiveness.

Table 1b
Rating Correlations for Male targets ($n = 30$)

	O	C	E	A	N	W	Com	DOM	ATT
O	1.00	-0.57	0.23	0.84	0.75	0.82	0.64	-0.34	0.49
C	-0.57	1.00	-0.52	-0.61	-0.76	-0.75	-0.92	-0.21	-0.59
E	0.23	-0.52	1.00	0.15	0.58	0.41	0.55	-0.64	0.55
A	0.84	-0.61	0.15	1.00	0.85	0.90	0.76	-0.44	0.61
N	0.75	-0.76	0.58	0.85	1.00	0.93	0.92	0.05	-0.72
W	0.82	-0.75	0.41	0.90	0.93	1.00	0.87	-0.20	0.67
Com	0.64	-0.92	0.55	0.76	0.92	0.87	1.00	0.10	0.67
DOM	-0.34	-0.21	0.64	-0.44	0.05	-0.20	0.10	1.00	0.14
ATT	0.49	-0.59	0.55	0.61	-0.72	0.67	0.67	0.14	1.00

Table 2a
Average Scores for Targets

	O	C	E	A	N	W	Com	DOM	ATT
Male ($n = 30$)	3.121	2.791	2.926	3.31	2.708	3.314	3.451	3.109	2.801
Female ($n = 30$)	3.066	2.693	3.039	3.236	2.803	3.19	3.483	3.02	3.115

Table 2b
Target Gender Differences

	O	C	E	A	N	W	Com	DOM	ATT
Intercept	0.055	0.098	-0.113	0.074	-0.095	0.123	-0.031	-0.388	-0.314
<i>t</i> value	1.028	2.013	-2.202	1.404	-1.787	2.221	-0.626	1.444	-6.659
<i>p</i>	0.307	0.0468*	0.0299*	0.163	0.0768	0.0286*	0.533	0.152	1.42e-09***

* = $p < 0.05$, ** = $p < 0.01$, *** = $p < 0.001$

Table 3a
Average Ratings from Female Participants ($n = 56$)

	O	C	E	A	N	W	Com	DOM	ATT
Female	3.061	2.623	3.041	3.179	2.777	3.134	3.521	3.075	3.141
Male	3.161	2.693	2.87	3.336	2.65	3.355	3.52	3.116	2.771

	AWS	SDO
Average Score	3.192	1.912

Table 3b
Average Ratings by Male Participants ($n = 46$)

	O	C	E	A	N	W	Com	DOM	ATT
Female	3.085	2.761	3.037	3.309	2.828	3.261	3.441	2.948	3.089
Male	3.078	2.902	2.998	3.285	2.767	3.263	3.372	3.100	2.841

	AWS	SDO
Average Score	3.262	2.764

Table 4a
Target Gender Difference by Participant SDO

	O	C	E	A	N	W	Com	DOM	ATT
Intercept	0.055	0.098	-0.113	0.074	-0.095	0.123	-0.031	0.088	-0.314
t value	1.026	2.003	-2.194	1.400	-1.780	2.210	-0.627	1.437	-6.740
p	0.307	0.0479*	0.0305*	0.164	0.078	0.0294*	0.532	0.154	9.96e-10***

$N = 103$

* = $p < 0.05$, ** = $p < 0.01$, *** = $p < 0.001$

Table 4b
Target Gender Difference by Participant ATW

	O	C	E	A	N	W	Com	DOM	ATT
Intercept	0.055	0.098	-0.113	0.074	-0.095	0.123	-0.031	0.088	-0.314
t value	1.03	2.004	-2.193	1.446	-1.845	2.278	-0.648	1.446	-6.668
p	0.306	0.0477*	0.0306*	0.151	0.06791	0.0248*	0.51873	0.151	1.4e-09***

$N = 103$

* = $p < 0.05$, ** = $p < 0.01$, *** = $p < 0.001$

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